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Michael B Holmes
USPTO
Patent Examination Office

In Reply To:	Your office action of May 21, 2004.
Application No:	09/885,076
Application Name:	COLLECTION CONTENT CLASSIFIER
Number of Pages:	19 pages in this response

Dear Mr. Holmes:

This is my response to your office action. I have done my best to show why my present invention is not obvious after the prior art that you cited in the office action.

1 Structure of This Response

2 Introduction

With respect, this response argues against the office claims of obviousness in view of the prior art cited in the office action.

The prior art cited by the office action is so distant from the present invention that it is irrelevant. Accordingly, I did not cite it myself in the original patent application. This was done on the advice of a USPTO examiner who requested that I avoid sending them "useless or irrelevant" prior art references that they had to review unnecessarily.

Perhaps my course of action was not the wisest one, because here I must show non-obviousness over the same prior art anyway. As a first time pro se applicant, it is difficult for me to determine whether or not I should include some irrelevant prior art (as perceived by me), if only to show that I did search for relevant prior art.

3 Key Differences of the Cited Prior Art

3.1 RANGER

First, RANGER discloses a method and system to *"discover, integrate, and visualize information according to a configurable information model,"* using multiple agents to search a plurality of data stores to return search results that are organized according to an object-oriented class hierarchy, and are visualized using a display model chosen to fit the class identifier specified in the original search request.

In contrast, the present invention does not accept a search query, does not require a class identifier or search seed, does not discover information, does not integrate discovered information according to a configurable information model, and does not visualize found information in an object-oriented way.

My invention is vastly different in principle of operation, conceptual structure, and implementation from RANGER.

Second, RANGER discloses an information model architecture that is comprised of at least a data layer, a conceptual layer, and a visualization layer. The conceptual layer "acts as an intermediary between the data layer and the visualization layer and comprises data types that describe how information is organized within a defined information model."

In contrast, the present invention does not contain a data layer, a conceptual layer, nor a visualization layer. The present invention clearly does not share *any* similarity with RANGER concerning information models.

4 My Special Definitions and Terminology

This section shows that I act as my own lexicographer, and give special meaning to the keyword "collection" and derivative terms such as "collection specifier," "collection content," "collection type," "collection type definition," and "Collection Content Classifier."

4.1 I act as my own lexicographer and define special meanings for key words.

As permitted by patent laws, I act as my own lexicographer and define special meanings for key words in the present application. My non-dictionary meanings of words such as "collection" are commonly misconstrued by patent examiners.

For example, Canadian patent examiners would often perform a simple text search of the prior art using the keyword "collection" to identify possible relevant prior art. However, the prior art found in this way always used the keyword "collection" for its normal dictionary meaning. As you can see, irrelevant prior art patent might use the word "collection" in the dictionary way. Yet the Canadian examiners cited the found search results as relevant prior art anyway. This practice does not seem fair or proper to me, citing irrelevant prior art on the basis of a keyword search.

I respectfully request that USPTO examiners consider my special lexicographic definitions when they cite prior art against the present application. As one USPTO examiner told me, "responding to irrelevant prior art is a waste of everyone's time."

4.2 Definition of "collection"

From the application (page 18), "Collection is a term that refers to the union of a collection specifier and a set of collection content."

In essence, a collection is a software "container" (a software data structure abstraction) that enables automated computer programs to "see, grasp, and manipulate" sets of related computer files.

Technically speaking, collections are inventive data structures whose existence is marked by a special file (collection specifier) that must associate itself with a specific user-defined set of rules (collection data type) for processing the collection. The processing rules are implemented in a special file (collection type definition) that is stored external to the collection, and that can be shared among all collections that associate themselves with that particular data type.

4.3 Definition of "collection specifier"

From the application (page 17), "Collection specifiers contain information about a collection instance."

For example, collection specifiers may define such things as the collection type, a text summary description of the collection, collection content members, derivable output

products, collection processing information such as process parallelism limits, special collection processing steps, and program option overrides for programs that manipulate collections.

Collection specifiers are typically implemented as simple key-value pairs in text files or database tables. FIG 3 shows an example physical representation of a collection specifier 102, implemented as a simple text file such as would be used on a typical personal computer filesystem.

4.4 Definition of "collection content"

From the application (page 17), "Collection content is the set of all files and directories that are members of the collection." By convention, all files and directories recursively located within an identified set of subtrees are usually considered to be collection members. In addition, collection specifiers can contain collection content directives that add further files to the collection membership. Collection content is also called collection membership.

4.5 Definition of "collection type definition"

From the application (page 17), "Collection type definitions are user-defined sets of attributes that can be shared among multiple collections." In practice, collection specifiers contain collection type indicators that reference detailed collection type definitions that are externally stored and shared among all collections of a particular type. Collection type definitions typically define such things as collection types, product types, file types, action types, administrative policy preferences, and other information that is useful to application programs for understanding and processing collections.

4.6 Definition of "collection information"

From the application (page 18), "Collection information is a term that refers to the union of collection specifier information, collection type definition information, and collection content information. "

From the application (page 17), "Collection information is comprised of three major parts: (1) a collection specifier that contains information about a collection instance, (2) a collection type definition that contains information about how to process all collections of a particular type, and (3) optional collection content in the form of arbitrary computer files that belong to a collection."

4.7 Definition of "classification information"

From the application (page 24) "In general, the output classification information answers four questions about a collection. (1) What content does the collection contain? (2) What are the content types of each content file? (3) What processing actions should be carried out on each content file? (4) What processing dependencies exist among content files?"

In other words, classification information is comprised of (1) a list of files that are members of the current collection, (2) a corresponding file type assignment for each file in the membership list, (3) a list of processing actions that should be applied to each file in the list, and (4) a list of processing dependencies among files on the list, that require some files to be processed before other files.

4.8 My inventive collections are not part of the prior art

My inventive collection data structures, and the methods and apparatuses for processing collections, are the subject matter of my patent applications.

Since my applications are based on practical, novel, and non-obvious data structures that are not described in the prior art in any convincing way, my inventions do not read on the prior art, and my claims should be allowed.

5 My Claims Recite Specific Inventive Structures

The office action rejects many of my claims and makes the argument that my claims read on the prior art, specifically on RANGER (US Patent 6,301,584). Other prior is cited as pertinent, but is not used as justification for rejecting my claims.

I disagree with the office action because my claims recite many novel inventive data structures and processes that are not shown by the prior art. RANGER does not fairly teach the inventive principles or structures of my Collection Content Classifier invention. It is not obvious how a person of ordinary skill in the art could infer my inventive principles and structures by reading RANGER.

5.1 Summary of the present Collection Content Classifier invention

- The present Collection Content Classifier invention discloses a system and method for automatically classifying the contents of a collection (an inventive data structure) according to policies stored in an external database.

- The main problem solved by the present invention is—*without interactive human participation—how to automatically determine collection content members, content types, content processing actions, and content processing interdependencies.*

- The main inventive principle of the present invention is *using an external knowledge base of predefined collection type definition information to dynamically determine collection content members and assign each content member a content type, a set of processing actions, and a set of processing dependency relationships.*

- The main inventive features of the present invention are *inventive collection data structures, collection specifiers, collection types, collection type definitions,*

collection content types, collection content action types, and collection content dependency relationships.

- The main result of the present invention is *an inventive Collection Content Classifier system and method for automatically and dynamically determining and classifying the content of collections within computer filesystems, for the purpose of automatically processing collections, with no human labor involved.*

5.2 My claims recite specific inventive data structures in Wherein Clauses

My claims are limited by recitation of specific inventive data structures as follows:

- My claims all contain "wherein" clauses that recite my inventive data structures.
- For example, the first of my claims cites "wherein **collections** are data structures comprised of a **collection specifier** and **collection content** containing zero or more collection content files." Each of these special lexicographic terms is specially defined in the application, and is part of one or more inventive data structures that form part of my invention.
- Each wherein clause severely limits one of my claims to the specific inventive collection data structures described in my application.

The office action does not show a convincing line of reasoning that suggests how a person of ordinary skill in the programming arts would be able to reach my inventive data structures and features by reading the cited prior art.

6 Responses to Specific Claim Rejections

The following sections respond to specific office action assertions and rejections.

I have used **bold font** to highlight **key terms** in the following text.

6.1 Response for claims 1, 9, and 17

The office action provides three paragraphs, corresponding to the three steps of my inventive method for recognizing collections.

The first paragraph (a) incorrectly equates my "*determining collection membership information for a collection being processed*" with the RANGER teaching of "*Each web server implementation of the present invention includes an information "metamodel" for information discovery, modeling, and visualization.*"

But the office action gives no convincing line of reasoning for its objection.

- By "**collection membership**," I mean the files that are part of the current collection, as determined by fixed rules that are specified in a *collection type definition* (which is an inventive data structure described in my application).

- By "**collection membership information**," I mean the union of a list of files belonging to a collection, and for each file, an assigned content (file) type, a set of assigned processing actions for that content member (file), and a set of dependency relationships which that content member (file) participates in.

- The office action means, "a generic information metamodel for controlling three separate activities (discovery, modeling, and visualization) involved in an *interactive,* human initiated and guided web search to obtain search results that are further organized and displayed according to the search-and-display model described by the metamodel."

- My **Collection Content Classifier** invention receives an automated—*non-human-interactive*—request for *collection classification information* for use by automated collection processing systems (no humans are involved).

- The office action, like RANGER, means "a system that receives *human-initiated and human-guided* search requests comprised of *a search class identifier, a seed (particular search criteria), and a display view preference,* for the purpose of performing a web search on multiple remote data source servers to locate data matching the *human-specified* search criteria, and upon finding matching search entities, further organizing and displaying those entities according to the class identifiers and display view preferences specified in the original search request."

- Clearly, my invention is classifying collection content for a collection (an inventive data structure) that has already been identified, and does not search or display results for interactive use by humans. Just as clearly, RANGER is describing a system for searching the web and displaying retrieved information for interactive human use.

The second paragraph (b) incorrectly equates my "*making said collection membership information available for use by software programs*" with the RANGER teaching of "*Information metamodel 200 is way of generically organizing information about specific information models.*"

- By "**collection membership information**," I mean the union of a list of files belonging to a collection, and for each file, an assigned content (file) type, a set of assigned processing actions for that content member (file), and a set of dependency relationships which that content member (file) participates in.

- By "*information metamodel*" the office action means a value that is calculated from, or as part of, a user search profile, to increase the efficiency or security of the article matching process on remote servers.

Page 6 of the office action incorrectly equates my wherein clause "*wherein collections are data structures comprised of a collection specifier and collection content...*" with the RANGER teaching of automatic content classification (col. 22 line 38 to col.23, line 34) "*Accordingly, one embodiment of the present invention relates to supplying* ***the results of a query input by the user*** *by performing automatic content classification of an object's content items for visualization.*"

- By my wherein clause, I mean to limit my claims to the particular inventive data structures as described in my application, such as "collection, collection specifier, collection type, collection type definition, collection membership information, collection content classification, collection type, processing action types, etc."

- In contrast, RANGER does not ever use the terms that recite my inventive data structures, such as "collection specifier, collection type, collection type definition, collection membership information, etc." It follows that RANGER does not fairly teach the inventive principles and structures disclosed in my application.

- By "automatic content classification," the office action means the RANGER method of (a) receiving a human-provided search query, (b) comprised of a class identifier, a search seed (particular search criteria), and a display view identifier, (c) performing a web search for objects that match the search criteria, (d) automatically classifying search results into groups according to the specified search class identifier (and derivatives thereof), and (e) displaying the grouped results using the view specification provided as part of the original search.

- Clearly, my invention is *assigning* type values and processing actions and dependency relationships to members of a single collection that is provided to my invention, on behalf of an automated program system that requires no human labor or interaction.

  In contrast, the RANGER invention is clearly performing a web search on behalf of a human user that provides human input to define and control the search and the display of search results. RANGER does no *assignment* of attributes or of dependency relationships, and does not fairly teach the inventive principles or structures of my invention.

The office action has not shown any convincing reasons why my inventive data structures, methods, and apparatuses read on the prior art. Therefore, it is unreasonable to expect that a person of ordinary skill in the art would find it obvious to invent collection data structures or the associated methods and apparatus of the present application, by reading only the prior art cited by the office action.

I have shown how the office action has misconstrued the special lexicographic meanings of "collection" (or other derived "collection" terms that represent my inventive structures), and how RANGER does not fairly teach the inventive principles, methods, or structures of my invention.

Accordingly, the applicant respectfully requests that this rejection be withdrawn.

6.2 Response for claims 2, 10 and 18

The office action (page 8) incorrectly equates my "*said step of determining collection membership information uses collection multiple product specification information, thereby providing a solution to the Collection Multiple Product Problem (page 3)*" with the RANGER teaching of "FIG 2, <a whole page of text that describes a network implementation of RANGER's invention, including multiple users, user workstations, web browsers, servers, several databases, spreadsheets, Telnet sites, and public websites>."

- By "**collection membership information**," I mean the union of a list of files belonging to a collection, and for each file, an assigned content (file) type, a set of assigned processing actions for that content member (file), and a set of dependency relationships which that content member (file) participates in.

- By "**collection multiple product specification**" I mean the specification of multiple products within a single collection specifier file, as shown in FIG 40 of my application, and as described in the specification.

- By "FIG 2 / RANGER," the office action means "a large network of interconnected computers that host combinations of users, web browsers, databases, spreadsheets, Telnet sites, video or sound databases, etc."

  Clearly, my statements are concerned with using a few lines of information (FIG 40, lines 6-13) from a single collection specifier file (an inventive data structure). In contrast, the office action statements are concerned with a large network of heterogeneous computers that perform many different functions and host many large and different kinds of data stores.

The office action has not shown any convincing reasons why my inventive data structures, methods, and apparatuses read on the prior art.

Therefore, it is unreasonable to expect that a person of ordinary skill in the art would find it obvious to invent collection data structures or the associated methods and apparatus of the present application, by reading only the prior art cited by the office action.

I have shown how the office action has misconstrued the special lexicographic meanings of "collection" (or other derived "collection" terms that represent my inventive structures), and how RANGER does not fairly teach the inventive principles, methods, or structures of my invention.

Accordingly, the applicant respectfully requests that this rejection be withdrawn.

6.3 Response for claims 3, 11 and 19

The office action (page 9) incorrectly equates my "*said step of determining collection membership information uses collection special fileset specification information, thereby providing a solution to the Collection Special Fileset Problem (page 3)*" with the RANGER teaching of "FIG 2, <a whole page of text that describes a network implementation of RANGER's invention, including multiple users, user workstations, web browsers, servers, several databases, spreadsheets, Telnet sites, and public websites>."

- By "**collection membership information,**" I mean the union of a list of files belonging to a collection, and for each file, an assigned content (file) type, a set of assigned processing actions for that content member (file), and a set of dependency relationships which that content member (file) participates in.

- By "**collection special fileset specification**" I mean the specification of special sets of files within a single collection specifier file, as shown in FIG 31 Lines 7-9 of my application, and as described in the specification.

- By "FIG 2 / RANGER," the office action means "a large network of interconnected computers that host combinations of users, web browsers, databases, spreadsheets, Telnet sites, video or sound databases, etc."

  Clearly, my statements are concerned with using a few lines of information (FIG 31, lines 7-9) from a single collection specifier file (an inventive data structure). In contrast, the office action statements are concerned with a large network of heterogeneous computers that perform many different functions and host many large and different kinds of data stores.

The office action has not shown any convincing reasons why my inventive data structures, methods, and apparatuses read on the prior art.

Therefore, it is unreasonable to expect that a person of ordinary skill in the art would find it obvious to invent collection data structures or the associated methods and apparatus of the present application, by reading only the prior art cited by the office action.

I have shown how the office action has misconstrued the special lexicographic meanings of "collection" (or other derived "collection" terms that represent my inventive structures), and how RANGER does not fairly teach the inventive principles, methods, or structures of my invention.

Accordingly, the applicant respectfully requests that this rejection be withdrawn.

6.4 Response for claims 4, 12, and 20

The office action (page 10) incorrectly equates my "*said step of determining collection membership information uses one or more collection content control directives, thereby providing an enhanced solution for the Collection Content Membership Problem (page*

3)" with the RANGER teaching of "Col. 6, line 6-23, <a routine description of many-to-one relationships familiar to anyone skilled in the art>" and "*Closely related data types defined by the information metamodel 200 are grouped in three related layers: a data layer 210, a conceptual layer 220, and a visualization layer 230.*"

- By "**collection membership information,**" I mean the union of a list of files belonging to a collection, and for each file, an assigned content (file) type, a set of assigned processing actions for that content member (file), and a set of dependency relationships which that content member (file) participates in.

- By "**collection content control directive**" I mean directives to include the specification of special directories and files within a single collection specifier file, as shown in FIG 27 Lines 7-12 of my application, and as described in the specification.

- By "Col 6, Lines 6-23 of RANGER," the office action means a routine description of many-to-one relationships in a data model, and an information model comprised of three pieces—a data layer, a conceptual layer, and a visualization layer.

  Clearly, my statements are concerned with using a few specific lines of information (FIG 27, lines 7-12) from a single collection specifier file (an inventive data structure). In contrast, the office action statements from RANGER are concerned with explaining routine many-to-one relationships in a data model, and describing a three-part information metamodel. My invention has nothing to do with three-part information metamodels, and RANGER has nothing to do with inventive collection specifier or collection content control directive specifications. The two descriptions have no obvious relationship to each other.

The office action has not shown any convincing reasons why my inventive data structures, methods, and apparatuses read on the prior art.

Therefore, it is unreasonable to expect that a person of ordinary skill in the art would find it obvious to invent collection data structures or the associated methods and apparatus of the present application, by reading only the prior art cited by the office action.

I have shown how the office action has misconstrued the special lexicographic meanings of "collection" (or other derived "collection" terms that represent my inventive structures), and how RANGER does not fairly teach the inventive principles, methods, or structures of my invention.

Accordingly, the applicant respectfully requests that this rejection be withdrawn.

6.5 Response for claims 5, 13, and 21

The office action (page 11) incorrectly equates my "*said step of determining collection membership information uses information selected from the group consisting of collection type definition information (Fig 21) and collection product type definition*

information (Fig 22-24) and collection content type definition information (Fig 34)" with the RANGER teaching of "FIG. 2, a page of text that describes a network implementation of RANGER's invention, including "*a web server that structures the information into an object-oriented, information model, and outputs the information for the user according to an associated visual representation.*"

- By "**collection membership information**," I mean the union of a list of files belonging to a collection, and for each file, an assigned content (file) type, a set of assigned processing actions for that content member (file), and a set of dependency relationships which that content member (file) participates in.

- By "**using information from the group consisting of...**" I mean information that tells my collection content classifier invention where to find collection content on the local filesystem, as shown in FIGs 21, 22-24, and 34 of my application, and as described in the specification.

- By "FIG 2 / RANGER," the office action means a network implementation of RANGER, including various machines for performing various tasks, including "*a web server that structures the information into an object-oriented, information model, and outputs the information for the user according to an associated visual representation.*"

  Clearly, my statements are concerned with using a few specific lines of information (eg. FIG 22, lines 8-9, FIG 27 7-12) from a single collection specifier file (an inventive data structure). In contrast, the office action statements from RANGER are concerned with a large network of heterogeneous computers that perform many different functions and host many large and different kinds of data stores, including a web server than organizes web search results in an object-oriented fashion for display according to a user-specified visualization scheme.

  My invention has nothing to do with web servers, search results, or object-oriented information models, and RANGER has nothing to do with inventive collection specifier or collection content classification using collection type definitions, product definitions, or collection content type definitions. The two descriptions have no obvious relationship to each other.

The office action has not shown any convincing reasons why my inventive data structures, methods, and apparatuses read on the prior art.

Therefore, it is unreasonable to expect that a person of ordinary skill in the art would find it obvious to invent collection data structures or the associated methods and apparatus of the present application, by reading only the prior art cited by the office action.

I have shown how the office action has misconstrued the special lexicographic meanings of "collection" (or other derived "collection" terms that represent my inventive structures), and how RANGER does not fairly teach the inventive principles, methods, or structures of my invention.

Accordingly, the applicant respectfully requests that this rejection be withdrawn.

7 Response to Prior Art of RANGER

The Applicant requests reconsideration and withdrawal of all prior art objections because there are many reasons that the present invention is not obvious after the cited prior art. A supporting analysis is presented below.

7.1 Summary of RANGER

RANGER discloses a system and method for performing user-controlled web searches, and organizing and displaying results according to an object-oriented information metamodel.

The main problem solved by RANGER is *enabling better web searches and display of search results for human operators, using object-oriented search, organization, and visualization methods.*

The main inventive principle of RANGER is *the use of an object-oriented information metamodel to describe search criteria (search class and search seed) and visualization schemes for human users who are performing web searches.*

The main inventive feature of RANGER is *a generic information metamodel that can be used to improve the utility of web searches, search result organization, and search result visualization (display) for human users.*

The main result of RANGER is *a system and method for performing web searches for human users using object-oriented search criteria and display techniques.*

The claims of the present invention do not read on the RANGER disclosure in an obvious way, as the following points demonstrate.

7.2 RANGER solves a different problem.

RANGER solves the problem of *enabling better web searches and display of search results using object-oriented search, organization, and visualization methods, for human operators.*

The present invention solves the problem of *how to automatically determine collection content members, content types, content processing actions, and content processing interdependencies*, with no human operators involved.

The two problems are very different, making the present invention not obvious from RANGER.

7.3 RANGER does not show the inventive principle of my invention.

RANGER does not show, nor teach toward, the inventive principle of the present invention.

The main inventive principle of RANGER is *the use of an object-oriented information metamodel to describe search criteria (search class and search seed) and visualization schemes for human users.*

The main inventive principle of the present invention is *using an external knowledge base of predefined collection type definition information to dynamically determine collection content members and assign each content member a content type, a set of processing actions, and a set of processing dependency relationships.*

The two inventive principles of operation are very different, making the present Collection Content Classifier invention not obvious from RANGER.

7.4 RANGER does not show the inventive features of my invention.

RANGER does not show, or teach toward, any of the inventive features recited in the claims of the present Collection Content Classifier invention.

The main inventive feature of RANGER is *a generic information metamodel that can be used to improve the utility of web searches, search result organization, and search result visualization (display) for human users.*

The main inventive features of the present invention are *inventive collection data structures, collection specifiers, collection types, collection type definitions, collection content types, collection content action types, and collection content dependency relationships.*

The number and character of these distinct inventive features show clearly that the present Collection Content Classifier invention is not obvious from RANGER.

7.5 RANGER does not show the unexpected results of my invention.

The main result of RANGER is *a system that can perform web searches using object-oriented search specification, organization, and visualization techniques.*

The main result of the present invention is *an inventive Collection Content Classifier system and method for automatically and dynamically determining and classifying the content of collections within computer filesystems, for the purpose of automatically processing collections, with no human labor involved.*

Furthermore, the act of *classifying collection content* enables collection-aware application-level programs to dynamically understand (determine membership) and manipulate (using assigned actions and dependency relationships) collections that exist in a filesystem, with no human labor involved.

This unexpected result—being able to understand arbitrary existing collections using a single application-level operation (collection content classification)—frees human operators from having to interactively specify multiple operations to understand and process the same set of collections.

RANGER does not teach this unexpected result. This demonstrates that the unexpected results of the present Collection Content Classifier invention are not obvious from RANGER.

7.6 RANGER teaches away from my invention regarding need for human users.

RANGER teaches a system and method for providing improved web searches for human users, so that human users can refine searches and select among potentially interesting search results to read.

RANGER therefore teaches that human users are required in his system.

In contrast, the present invention teaches about a totally automated Collection Content Classifier for use with totally automated collection processing systems, which require no human labor at all.

RANGER therefore teaches away from the present Collection Content Classifier invention concerning the need for human users, which makes the present invention not obvious from RANGER.

7.7 RANGER does not suggest modifications to meet the present claims.

RANGER does not teach—or even suggest—that his object-oriented web search system could be modified in an obvious way to meet the claims of the present invention. Accordingly, it is reasonable to conclude that the present Collection Content Classifier invention was not contemplated by nor obvious to RANGER, and is not obvious to a person of ordinary skill in the art.

7.8 No convincing reasoning for obviousness has been presented.

The points above show that RANGER solves a different problem and does not show any of the inventive principles, features, or results of my invention.

Accordingly, the office action has not presented a convincing line of reasoning for explaining why a person of ordinary skill in the art would find the claimed subject matter of the present invention to be obvious after the cited prior art.

The lack of a clear line of reasoning in the office action suggests that the claim of obviousness cannot be easily justified, and that the present invention is not obvious from the cited prior art.

7.9 The present invention solves an unrecognized problem.

The present Collection Content Classifier invention solves the previously unrecognized problem of *enabling automated computer programs to automatically determine the membership and processing actions for inventive collection data structures within a computer filesystem.*

Neither the prior art nor the industry literature has previously recognized this problem for inventive *collection data structures*. This is because the prior art is not aware of inventive collection data structures themselves.

In contrast, the present invention is one of a series of novel inventions that are bringing the advantages of collections to the art in the form of patent disclosures and commercial software products.

Since the prior art does not show awareness of either the main problem solved by the present invention, nor of its many inventive features, it is reasonable to conclude that the present invention is not obvious from the prior art.

7.10 The present invention solves a long-felt and unsolved need.

The present invention helps to increase the power, convenience, and automation of computer programs by providing them with a general way to work with inventive *collection data structures* that contain various kinds of computer files.

The industry has long felt the need for a convenient way of representing and manipulating groups of related computer files (which I store in inventive collection data structures). But no general, user-extensible, and user-customizable solution has been known to the prior art. The present Collection Content Classifier invention helps to solve this long-felt industry need.

It follows that the present invention is not obvious from the prior art, else alternative solutions would already be known and be in common use within the programming arts.

7.11 The present invention shows unappreciated advantages.

The present invention shows several advantages that are not obvious to, and are not appreciated by, those of ordinary skill in the art.

For example, the present invention enables the construction of automated collection processing systems *that require no human labor* to run automated computational processes on large systems of collections.

For another example, a practical application of the present invention is to help solve the ubiquitous multiplatform software build problem.

It follows that the present invention is not obvious from the prior art, because the prior art does not teach these unappreciated advantages.

7.12 The present invention has not been implemented before.

The prior art lacks any mention of the present invention *for inventive collection data structures*, and lacks any implementations of the present invention.

It follows that the present invention is not obvious to the prior art, else those of ordinary skill in the art would have implemented the present invention by now, in order to capture the many benefits of the present invention.

7.13 The present invention is contrary to the prior art.

The prior art clearly teaches application program designs that require human operators—using multiple, tedious operations—to provide various inputs to computer programs, and to tell application programs which files to use.

For example, RANGER, in the prior art cited by the office action, teaches the use of human users to provide input search criteria and output visualization criteria.

In contrast, the present invention is intended for use by totally automated computer systems, with no human labor required.

It follows that the present invention is not obvious to those of ordinary skill in the art because the inventive principle of the present invention, *using an external knowledge base of predefined collection type definition information to dynamically determine collection content members and assign each content member a content type, a set of processing actions, and a set of processing dependency relationships,* is contrary to the prior art.

8 Request for withdrawal of all USPTO objections.

I have explained why the present invention is not obvious after the prior art that was cited by the examiner.

Specifically, the applicant respectfully submits that the present application is not obvious after RANGER, and that all claims comply with USPTO patent laws.

Accordingly, the applicant respectfully requests reconsideration and withdrawal of all objections.

I hope that this response will allow continued prosecution of my patent applications. If you require more changes, I would be happy to carry them out.

Respectfully yours,

Kevin W Jameson
Inventor Pro Se